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INTERNATIONAL CITY MANAGERS' ASSOCIATION
1313 EAST 60TH STREET - CHICAGO 37, ILLINOIS

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FACTORS IN REDUCING THE WORK WEEK FOR FIREMEN

To what extent is the three-platoon system now used in fire departments? What are some of the factors to be considered in shortening the work week for firemen?

Nearly all the paid fire departments in the United States and Canada operate on the two-platoon system. Prior to the first World War the majority operated on the single-platoon plan, but at present only eight cities over 10,000 have this plan. From 1919 to 1945 a total of 23 cities, according to the 1946 Municipal Year Book, changed over to the three-platoon plan; and since the end of the second World War a movement has been started by the International Association of Fire Fighters (AFL) to secure general adoption of the three-platoon system.

Under the single-platoon plan firemen are on continuous duty with one day off in every 4 or 5 days. Under the two-platoon system, in 60 per cent of the cities over 10,000 the firemen work 24-hours-on and 24-hours-off; in 26 per cent they work 10-hour day shifts and 14-hour night shifts; and in 14 per cent various other combinations are used. The 24-hours-on and 24-hours-off plan is more widely used in the smaller than in the larger cities and is more popular in the middle west than in the eastern part of the country where the 10-and-14-hour schedule is commonly used. The median work week under the two-platoon plan is 72 hours in cities over 250,000, 78 hours in cities of 100,000 to 250,000, and 84 hours in cities of 10,000 to 100,000.

Three-Platoon System. The 23 cities which had adopted the three-platoon system before the war ended in August, 1945, were New York City; Toledo, Ohio; Brainerd, Hibbing, and Virginia, Minnesota; Anaconda, Billings, Butte, Great Falls, Helena, and Missoula, Montana; Bridgeton, Carteret, Dover, Gloucester City, and South Charleston, New Jersey; West Frankfort, Illinois; Campbell, Ohio; and Arnold, Bristol, Clairton, Kingston, and Sunbury, Pennsylvania. Information about the cities under 10,000 is not available, but it is known that Chisholm and Eveleth, Minnesota, have a 48-hour week.

Only four of the 23 cities have more than 25,000 population: New York, Toledo, Butte, and Great Falls. New York went on the three-platoon system in 1936 as the result of a favorable referendum conducted upon petition of the firemen. The change-over was begun by first granting the men shorter hours through the elimination of the long day on duty. Each fire company has one captain and three lieutenants, as compared with one captain and one lieutenant under the two-platoon system. During the war the three-platoon system was canceled. With the recent addition of new men, more than 4,982 firemen are on the three-platoon system, leaving 2,549 men still on the two-platoon system working 61 hours a week. The number of units and manual strength remain the same as under the former two-platoon plan.

Toledo adopted the three-platoon plan by charter amendment in 1919 but was not able to put it into effect until 1935. Toledo now has 405 officers and men which permits 135 men on active duty at all times, manning 30 pieces of

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equipment housed in 21 fire stations. The budget for 1946 called for a total expenditure of \$1,191,542 of which \$1,155,540 was for salaries. The basic salary of firemen is \$2,700. In addition, the city in July, 1945, decided to grant \$10 monthly increments over a five-year period, which ultimately will add \$600 to the basic salary. Sometime before 1950 the city expects to cut the present 56-hour week to 48 hours. In Butte and Great Falls the firemen work seven 8-hour shifts followed by a day off. Butte did not put on any additional firemen when the shorter week was adopted, but two stations were closed.

Since the end of the second World War Philadelphia, Seattle, and Lackawanna (New York), have adopted the three-platoon system. Philadelphia on July 1, 1946, by council action inaugurated the 48-hour week for firemen with approximately one-third of the men changing to the three-platoon system. The 48-hour week will be extended to the entire department as soon as 600 more hosemen have been appointed. The conversion from the two-platoon 70-hour work week to the three-platoon 48-hour work week will increase the personnel by more than 40 per cent, with a corresponding increase in cost.

In Seattle the voters in March, 1946, decided by 56,725 to 40,726 that firemen should have a 48-hour week, and at the same time adopted a \$30-per-month pay increase. The city expects to put the plan into effect on January 1, 1947. The men now work 70 hours a week; to change over to six 8-hour day shifts will require 265 additional men, nearly 50 per cent more than the present force, and will add approximately \$500,000 a year to the budget. Lackawanna, New York (24,058), adopted the 48-hour week in November, 1945, by a 2-to-1 vote.

Four cities turned down the 48-hour week at referendums held in 1946: Des Moines, Iowa; Duluth and St. Paul, Minnesota; and Portland, Oregon. Des Moines on March 25 voted 14,244 to 6,415 against the three-platoon system which would have required 95 additional firemen and increased the budget \$250,000 a year. Duluth voted 8,862 to 5,811 on July 8 against a proposal to cut weekly hours from 72 to 48. The shorter week would have called for 76 more firemen and added \$210,000 a year to the budget. Portland voters on May 17 defeated a proposed 48-hour week by a vote of 30,600 to 26,700. The fire chief estimated that the changeover from the present 72-hour to a 48-hour week would have required 275 more men and increased fire department expenditures by approximately \$790,000 a year, or almost 50 per cent. The charter amendment also provided for time and one-half for hours worked in excess of 48 in any week. St. Paul turned down the 48-hour week on July 8 by a vote of 28,347 to 13,760. It was estimated that 180 additional firemen would have been required at a total annual cost of \$450,000. The 48-hour week proposal in St. Paul was endorsed by the Parent Teachers' Association, the League of Women Voters, and the College Club, as well as by labor groups.

More "progress" has been made in Canada than in the United States in adopting the 48-hour week, according to the International Association of Fire Fighters. British Columbia and other western provinces have passed 48-hour week laws, and the IAFF reports that "most cities in western Canada" have put the plan into effect. In eastern Canada, Hamilton, Ontario (pop. 166,000), inaugurated the 48-hour week on May 1, 1946, following a referendum vote of 23,022 for and 18,461 against. Several smaller cities in Ontario have a 56-hour week for firemen.

Pressure for the Three-Platoon System. While only 26 of the 1,072 United States cities over 10,000 population have adopted the three-platoon system, the organized firemen have started campaigns in many states and cities to secure its general adoption. Usually the starting point is the state legislature. In 1945 the fire fighters were unsuccessful in the state of Washington; but in Massachusetts a law was enacted which permits any city to operate under a 48-hour week provided the citizens by referendum approve such a plan. Montana a few years ago adopted a 48-hour law, and all first-and second-class cities now operate under it. If the firemen fail to secure state or provincial legislative action they usually circulate petitions for local referendums (if their request is turned down by the council), starting with the larger cities in the state. Except in Philadelphia, city councils have refused to install the 48-hour week, although a number of cities have reduced the work week and retained the two-platoon system.

Local campaigns for a referendum on the 48-hour week usually are paid for by firemen. Hamilton, Ontario, firemen contributed \$2,500 toward their campaign, and each Seattle fireman was assessed \$20. During the six weeks prior to the referendum in Hamilton, firemen distributed 60,000 pamphlets, handing out thousands of them at all hours of the day and night at factory gates. Thousands of copies of a brief which had been presented to the city council were sent out to professional men, clergymen, and others; professional assistance was secured in preparing large newspaper advertisements; and hundreds of posters were distributed. One of the slogans on the posters read: "Vote Yes and Provide Jobs for 100 Veterans at a Cost of Less Than One Cent a Day." For four days preceding the date of the referendum a sound truck was driven continuously over the city streets. In Seattle firemen filed petitions with 25,000 signatures asking for the referendum. When a local civic organization, the Seattle Municipal League, opposed the 48-hour week the firemen said the League was a "big bad wolf" that was trying to keep over 200 veterans from finding employment in Seattle.

This gives an idea of the methods used by the firemen; similar tactics were employed in other cities. In one or two cities the firemen asked for the same working conditions that other city employees and workers in private industry enjoy, but this argument was not played up in many cities, perhaps because it must have been apparent that a 48-hour week consisting of two 24-hour shifts would give firemen a considerably shorter week than other employees, after deducting time for sleeping on duty and for meals. The chief argument used in the cities that have voted on the 48-hour week is that it would give employment to returning war veterans at a cost of less than one cent a day. In Duluth large newspaper advertisements played up the phrase "For Less Than One Cent a Day More, the Six 8-Hour Days Will Provide Approximately 70 Jobs for Veterans of World War II." The veterans responded in their own newspaper ad stating "We object to the Duluth fire fighters basing their campaign for more time off on the promise of veterans' jobs. The fire fighters average four days off each week now and they want more. Vote no."

Apparently many cities during the next few years will be faced with the same sort of campaigns. Among the larger cities where firemen have been actively working for a three-platoon plan are Birmingham, Boston, and Minneapolis. The International Association of Fire Fighters (AFL) at its annual convention in Toledo in September, 1946, again went on record as seeking a work week "not in excess of 48 hours," and the American Federation of Labor, at its 65th annual convention in Chicago during the week of October 14, 1946, endorsed the IAFF stand and has promised its support in working for legislation for the 48-hour week. Where the 48-hour week cannot be secured firemen's locals and the IAFF will work for a reduction in the work week.

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How the Three-Platoon System Operates. All of the cities that have put the three-platoon plan into effect have retained kitchens and sleeping quarters at stations. When the plan was first started in New York the use of sleeping quarters was discontinued but later permitted except for men engaged in fire duty, housewatch duty, or theater detail duty. Philadelphia and Seattle have not decided whether to discontinue the use of sleeping quarters.

The secretary-treasurer of the International Association of Fire Fighters in a letter to the International City Managers' Association on October 16, 1946, stated: "In every city in which the 8-hour system is in effect the beds have been retained in the fire stations because with the men in the beds between the hours of midnight and 8:00 a.m. a quicker response can be made than in any other manner and naturally that tends to increase the efficiency of the fire department. In so far as kitchens are concerned, they probably are not necessary where the 8-hour shift is in effect."

An outstanding fire department head apparently believes that sleeping quarters should be eliminated under the three-platoon plan. John H. Alderson, chief engineer of the Los Angeles fire department, writing in the September, 1946, issue of "The Firemen's Grapevine," published by the local firemen's relief association, states: "Reduction of hours worked in the United States will eventually change the entire design of fire stations. If a 40- to 48-hour week becomes the rule in this country, cities can hardly be expected to expend money to build elaborate individual rooms for men who are employed only 40 to 48 hours weekly. The fire station of the future will probably be only an apparatus floor with a small locker room and wash room facilities."

Firemen in all the cities with the three-platoon plan work six or seven 8-hour shifts, except in Toledo where they work two 24-hour shifts. In Toledo each platoon is off 48 hours between shifts. This results in 10 days of work out of every 30 days and on an annual basis provides a 56-hour work week. In New York and Philadelphia each fireman is assigned to a group; there are 20 such groups in New York and 7 in Philadelphia. In New York each group performs duty in each of the three platoons over a 20-day cycle divided as follows: (1) Six tours of eight hours each from 12:00 midnight until 8:00 a.m., followed by a 32-hour leave of absence at the conclusion of the sixth tour; (2) Six tours of eight hours each from 4:00 p.m. to 12:00 midnight, followed by a 32-hour leave of absence at the conclusion of the sixth tour; (3) Six tours of eight hours each from 8:00 a.m. to 4:00 p.m., followed by a 32-hour leave of absence at the conclusion of the sixth tour. Philadelphia follows a similar plan. Officers change platoons every seventh week; battalion and deputy chiefs do not change platoons.

In response to a question on the preferred method of scheduling working hours under the 48-hour week plan, the IAFF recently wrote the International City Managers' Association as follows: "In connection with what is the prevailing way of scheduling working hours under the 48-hour week, I think that it goes without saying that the system of 24 hours on duty and 48 hours off duty is the most desirable from the point of view of the fire fighter. However, in most cities where the 48-hour week is in effect the men are divided into three shifts, and they work on an 8-hour-a-day basis. There are a number of different plans whereby the rotation changes so that men may procure what they call a long week-end off from time to time."

Manpower Required Under Various Plans. The number of men actually on duty is the governing factor so far as the underwriters are concerned, and not whether the one-, two-, or three-platoon system is used. The arrangement of working hours is a manifestation of economic conditions and administrative policy and is important as it may affect the number of men available. For comparison one might take (1) one-platoon (one day off in four, meal hours allowed); (2) two-platoon (no meal hours); and (3) three-platoon (one day off in seven, 48-hour week). Theoretically the required manning under these plans may be expressed in the ratio of 1.29: 2.00: 3.43. In other words, under the single-platoon plan 1.29 men would be required as compared to 2 men under the two-platoon and 3.43 men with the three-platoon system. The actual number of men required, however, is likely to be more than this ratio would indicate in the case of the one- and three-platoon plans because of difficulties in filling in for men off on sick leave and vacations, and also for time off for meal hours where the 24-hour shift is used.

Relative Number of Men Required Per Company

Minimum On Duty in Station	One Platoon* (1 day off in 4 and meal hours)	Two Platoons (Equal shifts)	Three Platoons* (Equal shifts plus 1 day off in 7, 48-hour week.)
3	5	6	11
4	6	8	14
5	8	10	18
6	10	12	21
7	11	14	25
8	13	16	28

*These figures are necessarily approximate when expressed in terms of whole men. These figures may be shaded slightly where men can be transferred from one company to another to make up inequalities of manning due to days off or meal hours.

The two-platoon arrangement is only slightly more costly to a city than the single platoon and working hours under the two-platoon plan are most nearly comparable with current hours for workmen in industry when time that men are allowed to sleep on duty is deducted. The three-platoon plan is quite a bit more costly and when scheduled as two 24-hour shifts results in a work week of 32 hours or less.

Factors to Consider. Firemen in some cities are working for state legislative action or charter amendments to make the three-platoon plan mandatory without regard to the cost or means of financing. They generally request a work week of two 24-hour days without a reduction in pay; in fact, pay increases and other changes in working conditions often are demanded too.

The city council and chief administrator should realize that a change to the three-platoon plan will provide little or no improvement in fire protection service. The only advantage is that a larger reserve force is provided which means that more men will be available when the off-shifts are summoned. The question, therefore, is almost solely one of the equitableness of the 48-hour week as against its cost to the city. Experience of cities with the three platoons shows that from 40 to 50 per cent more men are required than under two platoons and the cost is even greater because

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of additional payments to the retirement fund. The adoption of the three-platoon plan, therefore, calls either for a curtailment in other city services, reduced pay for other city employees, increased tax levies, new sources of revenue, or a combination of one or more of these actions.

Service provided by the fire department is chiefly of a standby nature and in this respect differs considerably from the work of other city employees and also from work performed in industry. The fire service is largely of an emergency nature designed to combat the relatively infrequent large or hazardous fire. While the men are on hand for round-the-clock service they would not, in a 48-hour week, work as many hours as the police who are paid at approximately the same rate, and also work a 48-hour week. Unlike the police, a large portion of the firemen's time is spent in sleeping on duty. Where the 48-hour week consists of two 24-hour shifts the men have five days of the week left for other work. Under such a plan firemen would have at least 20 days off a month in addition to vacation and sick leave. Up to one-third of the 24-hour shift may be spent in sleeping if there are no fire calls. On two 24-hour shifts, this sleeping time amounts to 16 hours which deducted from the 48-hour week makes a work week of 32 hours.

If a city decides to adopt the three-platoon plan the people should know in advance what it will cost and they should be asked to vote additional tax levies or new taxes at the same time that the 48-hour week proposal is voted on. Because of the greatly increased cost of the three- over the two-platoon system few city councils would want to take the responsibility of making the change without a vote of the people. Where the plan is adopted by the state legislature or by the people without voting the required additional funds, the council can consider reducing the number of men at stations or eliminating stations if necessary, letting the property owners pay the increased fire insurance rates that might follow a reduction in manpower below the protection required by the underwriters.

In cities where the three-platoon plan is adopted, with or without needed funds, the firemen should know in advance how the work week will be distributed and what will be expected of them. This is a decision the council and chief administrator can make and here are some points to consider:

(1) The 48-hour week should be worked in six 8-hour shifts rather than in two 24-hour shifts. Another plan is to work the 48-hour week in alternate weeks by 4 day shifts and 4 night shifts to avoid changing shifts at midnight.

(2) Sleeping quarters, kitchens, lounging rooms, and radio rooms can be eliminated from stations. The design of new stations can be changed to provide space only for apparatus, supply closets, an office for the company and district officers, and a ready room for the crew which also can be used for briefing and study.

(3) The men should be kept busy during their period of duty. Part of the men on each shift can be occupied with a full-time training program. Men on the day shifts can be sent out on inspection details and each evening classes can be held in fire prevention and fire fighting. A comprehensive fire prevention program can be conducted by every fire company with a radio patrol system. At least one man on the late night shift can patrol the streets looking for fire hazards, and others can work on inspection reports, and study plans of buildings in their districts.

(4) The distribution of fire stations and companies should be studied with a view to reducing the units to a number that can be maintained consistent with men available under the shorter work week and in so far as possible consistent with the underwriters' requirements.

Shorter Work Week But Retaining the Two-Platoon System. The extensive agitation for a 48-hour week is based mainly upon the contention that firemen should not have to work 24-hour shifts because such shifts keep them at the station for long periods of time. For this reason quite a number of cities have reduced the work week and kept the two-platoon plan. One of the cities that has recently reduced the work week but retained the two-platoon schedule is Buffalo, New York, where the council cut the work week from 72 to 60 hours and raised annual salaries \$350. Providence, Rhode Island, has reduced hours from 84 to 68; San Jose, California, from 84 to 70; and Binghamton, New York, from 84 to 72. San Francisco will vote on November 5 to reduce the work week to 120 hours duty in any 15-day period and also to increase salaries.

This reduction in the work week is accomplished by eliminating all 24-hour duty periods and by having the men work four or five periods of day duty followed by an equal number of tours of night duty after several days intervening leave. This plan is preferred by many fire officers and men to the three-platoon system because it avoids going on or off a shift at midnight. The men also know that the larger the force the higher the cost of salary increases and the more difficulty in securing such increases.

It would seem that most of the objections raised to the two-platoon system by firemen have arisen from four considerations: (1) objection to 24-hour shifts of duty where the 24-hour-on and 24-hour-off shifts are operated; (2) objection to the 24-hour-on-duty shift-over where alternating 10- and 14-hour day and night shifts are operated; (3) objection that the 10- and 14-hour plan of the two-platoon system does not give the men sufficient time off duty in large cities where considerable time is spent going to and from work; and (4) complaint that under the two-platoon system firemen do not have one day off in six as do many other workers (except for the occasional 24-hour period when the shift goes from night to day duty).

Most of these complaints could be ironed out under a modified form of the two-platoon system like the 70-hour plan in Massachusetts--in cities where a shorter work week is desirable. Under this plan the men continue to work 10- and 14-hour day and night shifts but the change from day to night duty is accomplished by granting a 24-hour off-duty period, 6:00 p.m. to the following 6:00 p.m., rather than a continuous stretch of 24 hours on duty as under the old system. Likewise, a 24-hour off-duty period follows each tour of night duty before the man returns to the day shift. These 24-hour off-duty periods serve to give the men a chance to relax, and perhaps get away on short trips, that would not be possible under the regular two-platoon plan. Some departments allow an extra day off in addition to the changeover periods making the work week average 64 hours.

Actually, however, the 70-hour plan cannot be strictly considered a two-platoon system because there are not two distinct platoons. Each man is assigned a day off in rotation so that equal company strengths are maintained at all times. An advantage of this plan is that the captain is again in contact with almost every man in his command as under the one-platoon system. Usually a few extra relief officers are provided (one for a group of companies) to substitute for officers who are having days off. For example, if

an engine and ladder company were stationed in the same quarters, one relief officer would serve both companies. The 70-hour plan would return the lieutenant to the more subordinate position held under the old one-platoon system so that there would be less conflict in administering company affairs. It would also be possible for the captain to get out of quarters for more fire-prevention work than he could under the old two-platoon system. The number of additional men required under the 70- or 72-hour plan depends somewhat upon the existing company manpower and the total number of firemen.

Conclusion. The argument used by the fire fighters that the three-platoon system will provide more jobs for veterans is not justifiable. The public service should never be used merely to provide jobs. The one-cent-a-day figure used by the fire fighters as the additional cost to the city is confusing and ambiguous. In Duluth, with a population of about 101,000, one cent a day would amount to \$368,000 a year as compared to the \$210,000 estimated by the city as the cost of the additional men actually needed to put the plan into effect. Moreover, the one-cent-a-day argument does not answer the question as to how the money is to be raised. Finally, contrary to claims made by fire fighters, the three-platoon system will not provide increased protection because the number of men on duty at any given time would not be increased. Neither will this plan result in lower insurance rates nor even guarantee a more efficient department.

The city council and chief administrator of every municipality have the responsibility of administering municipal services efficiently and economically. The people should expect and demand the highest quality of service that is possible with the personnel and funds available. The administrator and council also have a responsibility to the employees who do the actual work in furnishing these services to the people. This means, among other things, good working conditions and adequate pay. But for obvious reasons the administrator and council cannot favor one group of employees as against another group. In requesting a 48-hour week the firemen overlook the implication of the over-all financial and personnel problems involved.

Since it would not improve the fire protection of the city the council cannot justify the greatly increased cost of a 48-hour week. None of the 48-hour week proposals that have been submitted to the people have provided for financing the change. It is the general rule in good legislation to provide the method of financing where a large sum of money is required. But advocates of special group legislation know that it is easier to secure voter approval of a measure if it does not on its face require an increase in taxes. It is suggested therefore that where the three-platoon proposal is put on the ballot the method of financing should be included in the form of new or additional taxes.

Perhaps the work week for firemen in some cities should be reduced and 24-hour duty periods eliminated. But when firemen want a 48-hour week scheduled as two 24-hour shifts they are seeking a special privilege that would result in a considerably shorter work week than any other group of employees now have. The same is true under six 8-hour shifts if the men are permitted to sleep on the shift from midnight to 8 a.m. Under the two 24-hour shifts the firemen would have five days each week to devote to other employment. It should be pointed out that many firemen realize the injustice of such a plan and prefer the 64-, 70-, or 72-hour week to a system where they would alternate on three shifts. If the people by referendum approve the three-platoon plan and vote the necessary funds to put it into effect the administrator and council then have the responsibility to see that the men on all shifts comply with the working regulations that apply to other city employees, thereby making it possible to eliminate kitchens and sleeping quarters at fire stations.